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BODY AND MIND; OR, THE DATA OF MORAL PHYSIOLOGY.*

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Part V.

DIET—CONTINUED.

The study of the moral influence of diet, in its qualitative aspects, reveals equally suggestive, and not less strangely ignored, facts. No practical agriculturist would hesitate to admit that the adaptation of any soil for the production of special crops can be modified by the use of special fertilizers. No beast trainer would deny the fact that the energy, the intelligence, the docility, in short, the *psychological condition* of any animal can be influenced by a change of diet. But the exponents of human psychology persist in ignoring such factors of causation.

"For many years," says Herbert Spencer, "after men of science had become uniformitarians in geology, they remained catastrophists in biology; while recognizing none but natural causes in the genesis of the earth's crust, they ascribed to supernatural agency the genesis of the organisms on its surface. Nay, more, among those who are convinced that living things in general have been evolved by the continued interaction of forces everywhere operating, there are some who make an exception of man, or who, if they admit that his body has been evolved in the same manner as the bodies of other creatures, allege that his mind has been not evolved, but specially created."

The same fallacy of dualism still rejects the physiological basis of ethics. Even by independent thinkers, nay, by many of our foremost educational reformers, the "immortal soul" is still treated as an *alter ens*, an entity governed by laws so distinct from those of nature in general that a dietetic suggestion by a spiritual adviser would appear as irrelevant as a miracle legend in a treatise on marine steam engines.

The hyperphysical tendency of our established system of ethics continues to influence the fields of inquiry so long monopolized by its dogmatists, and yet the chief boast of that system, the alleged contrast between the patient meekness of its converts and the vindictive violence of unregenerate man, can be proved to be mainly a result of dietetic habits. At the court of the Guicovar of Baroda (British India), Captain Gordon Elliot saw a "fighting horse," a special pet of the sport-loving prince's, who, by way of experiment, had fed a young stallion, at first on a mixed diet of chopped meat and oats, and finally almost on meat alone. Before the end of the third year the descendant of herbivorous ancestors had become a predatory beast of most aggressive tendencies. Without the slightest provocation he would rush upon every visitor of his den, beat down goats or dogs with plunging kicks of his forefeet, and devour their entrails with all the greed of a famished hyena. He also attacked other horses, and once killed a wild boar which a day before had vanquished a panther; and the fierceness of his onsets resembled the rage of a vicious bulldog, rather than the petulant caprice which now and then impels cart-horses to use their teeth on each other.

The naturalist Brehm, on the other hand, mentions the achievements of an Abyssinian beast-tamer who trained young leopards to associate with his pet baboons, and ascribes his success to the milk and durrha bread diet which his speckled prisoners were obliged to share with their four-handed fellow captives. The best breed of Scotch shepherd dogs never taste meat and are permitted to suck a nursing ewe till their teeth grow strong enough to masticate hard cheese and oatmeal cakes. The smooth-skinned dogs which the Chinese have for centuries fattened for culinary purposes have undergone a curious metamorphosis of disposition. They are more gentle and submissive than the tamest spaniels, but seem to have lost their hunting instinct, and their timidity qualifies their value as watch-dogs.

There is no doubt that some tribes of the human race have degenerated in the opposite direction. The courage of the pluckiest varieties of our next relatives, the frugivorous four-hander, is purely defensive. The mischievous pranks of the strong-fisted chimpanzee always stop short of actual cruelty; the brutal treatment of a defenseless fellow-creature excites the shrieking protests of the same baboon who a minute ago amused himself with twisting the tail of his playmate. In his rough-and-tumble sports with his fellow pets, my young mandrill forbears to make use of his teeth, but if a couple of dogs engage in a *bona fide* fight, he is sure to rush in and part the combatants. It is more than probable that under normal conditions of development the human mind, too, manifests an instinctive abhorrence of cruelty. Children shudder at the gory scenes of a slaughter-

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house, and it is a significant circumstance that in nearly every known language the equivalents of the word *humanity* are used as synonymes of a merciful disposition. The paradise legends of the Semitic nations, and the traditions of the "Saturnian Age" of ancient Italy and Greece, preserve the memory of an era of horticulture and peace preceding the period of nomadic and predatory habits. The nature-abiding Greeks, with all their fierce hatred of despotism and love of warlike sports, were at heart averse to scenes of bloodshed, and when it was proposed to increase the attractions of the Panhellenic games by the introduction of Roman gladiators, the citizens of Athens and Corinth rejected the offer with the remark that the proconsul would first have to tear down the altars of mercy.

Man's entire system of physical organization bespeaks a frugivorous adaptation; but by the same means that transformed the disposition of the Baroda stallion, our North American Indians and the hunting tribes of southern Africa have become imbued with all the sanguinary instincts of beasts of prey. The murderous internecine wars of our American aborigines preceded the time when the intrigues of their Caucasian rivals fostered the causes of disunion, and were chiefly due to the same instincts of truculence that impels a mink to exhaust the chances of every favorable opportunity for slaughter; and the history of our western border wars abounds with the records of unprovoked massacres and inhuman butcheries of prisoners that might have been ransomed on terms which only a mania of bloodthirst could have induced needy captors to refuse. Gordon Cumming, Dr. Schweinfurth and Mungo Park agree in their accounts of the hideous cruelties which constitute the favorite pastimes of the carnivorous savages of central Africa; and it is a suggestive fact that all the meat-surfeited nations of the Caucasian race are characterized by a penchant for sanguinary sports. The neglect of agriculture and the abundance of cheap pasture grounds make animal food a predominant ingredient in the fare of the natives of the Spanish peninsula, and the *matanzas* (literally butcheries) of their bull-rings kindle an enthusiasm much more incomprehensible to their French neighbors than to their British fellow beef-eaters. In the border towns of the Spanish Pyrenees, *matanzas* have been almost relinquished in deference to the protests of French residents, while in Matamoras, El Paso, and other cities of the Rio Grande frontier, bull fights, though denounced by the Anglo-American press, are liberally patronized by Anglo-American spectators, a class of sightseers by no means limited to "cow boys" and border ruffians.

Carnivorous habits prevail both on the table lands of central Asia and in the jungles of the Sunda archipelago, and the blood feuds of the sluggish Malay are carried on with the same pitiless ferocity that marks the border raids of the restless Turcoman. The Hindostan vegetarians, on the contrary, extend their blood-abhorring humanity even to the lowest of their dumb fellow-creatures. With infinite patience the native fruit-planters of the Punjaub will drive off a troop of pilfering monkeys again and again, rather than save themselves all further trouble by killing a few of the long-tailed marauders. In the suburbs of Agra, a British gardener who had shot and crippled a kalong (a frugivorous bat), was pursued by a howling mob, who finally cornered him in a side alley and with shrieks of execration shook the squealing harpy before his eyes. To the followers of Brahma, a "fox-hunting parson" is a preposterous anomaly. "The war-whoop of a prize-fighting nun," says an English writer, "would not amaze those rice-eaters more than the words of the Anglican rector who assembles his domestics for morning prayer, and then dons his shooting-jacket and calls out to his son: 'Say, Jack, get your shotgun; let's go and try and kill something.'"

Race influences have a share in the causation of such contrasts, but we cannot deny the race affinities of the fierce Tartar huntsman and the submissive vegetarians of the Chinese coast lands. The agricultural negroes of the lower Senegal differ in disposition from the carnivorous negroes of the upper Congo, as a rice-fed Shanghai dog differs from a Turkestan wolf-dog. A still more remarkable contrast is perhaps that of the *Indios bravos* and *Indios mansos* of northern Mexico. The "brave" redskins, including the Apaches, the Yaquis and scattered tribes of the Arapahoes, subsist almost exclusively on the products of the chase, and never fail to utilize a chance for murder and devastation. Colonel Ruxton's "Adventures in Mexico and the Rocky Mountains," details instances of barbarity which almost justify that bounty proclamation of a Governor of Chihuahua, who offered "a shot premium of five dollars for the skull of every wolf, Apache or puma, delivered at the office of the City Comptroller Hernandez."

The *Indios mansos*, or "tame Indians," on the other hand, subsist on brown beans and the produce of their banana gardens, and deserve their name by an ultra Buddhistic patience of non-resistance. To the ruthless oppression of their Spanish taskmasters they opposed nothing but prayers, and on failing to accomplish their allotted task of gold-washing or log-hewing, would often travel thirty miles afoot to report for trial and its barbarous consequences. Professor Stevens, the explorer of Yucatan, mentions a perhaps unparalleled instance of self-abasement, practiced in a popular drama —a veritable passion-play—of the Pinto Indians. A crowd of shackled slaves congregate on the stage, rubbing their sores, and by mutual assistance succeed in removing their fetters. Huddling together in a corner, they compare notes on their experience, and the recital of their martyrdom at last develops the initial phase of a

conspiracy. Knives are sharpened and bow-strings fastened; but in the midst of these preparations a vulture-nosed and fierce-whiskered Spaniard appears on the scene, and by the discharge of a horse-pistol succeeds in frightening the malcontents into unconditional surrender, so effectually, indeed, that many of them crawl upon their hands and feet and submit their necks to the boot-heel of the bearded Castilian!

Yet the ablest ethnologist would fail to distinguish the skull, the complexion and the physiognomic characteristics of the long-suffering *manso* from those of his truculent kinsman.

Carnivorous habits engender aggressiveness, mordacity (more or less modified by the influence of domestication), ill-will, vindictiveness and a peculiar restless disposition, often ascribed to quite irrelevant causes. Compare the zigzag trot of the captive panther and the impatient rushes of the captive hyena with the complacent attitudes of the captive deer, or the lazy good humor of the semi-vegetarian bear. In Polk county, Tennessee, I once attempted to domesticate a she-fox with a litter of cubs, and had frequent opportunities to study the effects of dietetic experiments upon the disposition of my prisoners. After a good meal of milk, bread and blackberries, the *materfamilias* would turn over on her back, playing with her youngsters for hours together, or dandling with a ball tied to the end of a whirling string. A meal of meat—even as much as the refuse scraps of a dressed rabbit—would set her a trotting to and fro to the full length of her tether, every now and then giving her chain a spiteful tug and confirming such symptoms of ill-humor by vicious snap-bites at the heels of every passer-by. The influence of the stimulating diet seemed to react even on her progeny, for on meat-day her usually tranquil cubs would scamper up and down my veranda steps and often overcome their youthful timidity to the degree of climbing the fence and exploring the adjacent woodlands. Hence, perhaps, also the nomadic penchants of our North-American autochthones, and the *impulsive restlessness* (quite distinct from industrial enterprise) of our Anglo-American population, with their predilection for three daily rations of rich meats. The French peasant, with all his Gallic vivacity, never emigrates while his ten-acre patch offers him a frugal chance of subsistence, while the exodus mania of our farming population has carried thousands of families from the sylvan paradise of the southern Alleghanies to the alkali deserts of the Far West.

The character-type of carnivorous animals harmonize perfectly with the exigencies of their predatory habits. A nursing she-wolf, in quest of prey, has often to range the scant hunting-grounds of the wilderness for hundreds of miles, and the ferine aggressiveness of the Bengal tiger doubtlessly turns his dreadful work into a source of pleasure. But few moralists of the present generation would dare to trace the effect of analogous causes to their influence in aggravating the discords of temper and duty, of passion and precept, in the spheres of civilized life:

"Mel in ore, verba lactis,
Fel in corde, fraus in factis,"

describes only the symptoms of a phenomenon not confined to the meat-gorged prelacies of the middle ages. "Alas, what avails all theology against a diet of bull-beef," writes Father de Smet from the Sioux missions; but our home missionaries seem agreed in ignoring the effects of cognate causes. The report of a recent convention of prison reformers mentions, however, a noteworthy remark of a Belgian delegate, who held that in the management of indoor workers a bill of prison fare prescribing a preponderance of meat rations, would be a refinement of cruelty, since the characteristic influence of such food would make the irksomeness of restraint an almost unbearable affliction.

THE FUNDAMENTAL PROPERTIES OF MATTER.

BY J. G. VOGT.

Translated from the German by F. W. Morton.

III.

We now proceed to the core of our investigation. If the organic world is a strictly bounded whole, if we can adduce proof that organic substance constitutes a definite, severed part of the world-substance, then by an arrangement of organic elements analogous to chemical elements it will surely be easy to make possible an explanation of organic phenomena. The difficulty and cause of confusion is, that organic substance, under whatever fluctuations, springs from inorganic and again returns to it. Indeed, we can even at will develop organic substance from inorganic; and daily we see organic substance fall again to inorganic.

This simple undeniable fact drives us with imperative necessity into the arms of a monistic view of the world, i. e. regarding all as *one*. Every fundamental property which we are forced to attribute to the world-substance in order to explain any phenomenon, must belong to *every part* of this world-substance, and therefore, according to an atomistic conception of matter, *to every separate atom*.

According to our conception of substance every center of condensation must evidently run the entire scale of feeling and be able to accommodate itself to *all* the phenomena of the world without exception. It can, therefore, play an equally correct role in both the great divisions, the organic and the inorganic realms.

If just now we found it impossible to deduce from the current physical or mechanical conceptions of matter the organic phenomena, so we find it likewise difficult to establish the monotonous regularity and lifelessness of inorganic substance from the old established conceptions of organic substance (according to which the in-

organic must be a sort of weathering product of the organic.) How can the kinetic philosopher explain how the atom of oxygen that, during millions of years, has rested in granite, passive and dead, suddenly becomes possessed of conscious feeling when it is afforded an opportunity of entering a brain cell? Or how, on the other hand, can biology explain how the atom of oxygen, to-day a part of a brain cell and possessed of conscious feeling, is to-morrow united with carbon and cast out as carbonic acid, again to enter the circle of purely physical, dead, mechanical processes?

None of the former conceptions of matter explain or establish the fundamental difference between organic and inorganic activity. Yet, this difference exists, and a consistent idea of matter must above all things take it into account.

In the work above referred to I have shown how the chemical elements, i. e. the old atoms, become groups of condensation centers, while the ether only springs from such original centers. Physics teaches us that all bodies, i. e. all material matter, can be reduced to three states of aggregation—gaseous, fluid and solid. Every chemical element can run the entire scale of condensation, and, according to our theory, likewise the entire scale of feeling, if the external conditions are furnished for it. Every atom by condensation can pass from the conscious feeling of life to the unconscious condition of repose.

In strict accordance with our theory, heavy, condensed matter, like the metals, minerals, etc., which approach near to the maximum value of condensation in the positive direction, will be excluded from all conscious feeling; their state is a thoroughly passive and lifeless one, in direct opposition to those substances which exist in a fluid or gaseous state of aggregation, which are susceptible of conscious feeling, and therefore play the chief role in the organic world. We know that carbon, oxygen, hydrogen and nitrogen principally form the structures of the organic world. If to them, even, in the course of time, the possibility of condensation, of transition to a solid state were offered, all manifestation of conscious feeling would cease, and the organic world would be destroyed. Our world, benumbed and rigid, would rest in endless sleep, at least until after æons, in the course of cosmical cycles, the stiffened masses should again be called to new life.

We thus see that it depends solely on the degree of density, or the state of aggregation of an atomic body, whether it can take part in the organic phenomena of life or not. And in strict accordance with actual facts, there prevails, according to our theory, no fundamental difference between an organic and an inorganic substance. Whatever be the fluctuations, the latter can pass from the former and back again into it. One error, however, we shall have to avoid, namely, that there is a definite limit at which a tangible line of demarkation between organic and inorganic conditions of matter can be drawn. On the contrary, observation teaches us, and the principle of activity in the centers of condensation—that is, the unalterable striving, under all circumstances, for the maximum density—forces us to the assumption, that each atom in every state of aggregation, and therefore even under the highest negative fluctuation, must exclude an inorganic, i. e. a simply physical mode of activity. The higher the negative fluctuation of an atom, the more energetic are its vibrations of contraction; and I have shown in another place how in these vibrations of contraction on the negative side are to be found, above all, the impulse toward chemical unions. For example, an atom of oxygen which, in consequence of its high negative fluctuation, becomes possessed of conscious feeling can in the same or the next moment enter into a chemical union and therefore manifest a thoroughly physical course of action. The irresistible impulse toward condensation, however, impresses on every atom the sameness of the physical course and at the same time imparts to the latter the appearance of firm, unalterable regularity.

Now, while the physical or mechanical action of an atom necessarily takes it through all states of aggregation and degrees of density, we have on the other hand to assume a point somewhere on the scale of condensation at which the conscious feeling of an atom becomes extinct. It is, to be sure, impossible to determine this point even in the remotest way. We may, however, assume, that in the solid state of an atom this rise of manifest consciousness has been passed; indeed, that it may already have been passed in the fluid state; and that to the gaseous state alone belongs the real manifestation of consciousness. Accordingly, so far as it corresponds to the different degrees of density as exhibited in the centers of condensation, this scale of feeling would move in a negative direction.

In the work already cited I have shown how even in the gaseous state an atom may still traverse an immeasurable series of volumes, so that no especial difficulties would lie in the way of limiting the entire scale of feeling to the gaseous state. Yet this would not mean that all expression of feeling is to be relegated from the fluid state in which the maximum value of condensation is not yet reached; but, that in all probability these modes of feeling are no longer likely to possess that degree of brightness which produces consciousness and which the generation of organic activity demands. The same may also be true of many a degree of density in the solid state.

Now it may be justly asked: If the scale of feeling runs parallel with the scale of density of the gaseous state, if conscious feeling is joined with a high degree of negative fluctuation, must not the manifestation of

conscious feeling, on the other hand, be attributable to all physical and, especially, chemical processes, to which matter in the gaseous state is subjected? This thoroughly pertinent question leads us to the central point of our investigation, to the fundamental distinction between the inorganic and the organic forms of matter.

We have to imagine the contracting tendencies of the center of condensation as disturbed with so high an intensity that such a center, which suffers a negative fluctuation, seeks instantaneously to free itself from this. Thus in the shortest space of time, perhaps millions of these gradations, volumes of density, and, therefore, perhaps the entire scale of feeling, is traversed. I refer here for example to the chemical processes which I have exhaustively treated in another place (v. Force, *Chapter on Chemism*), and in which I have shown how the negative fluctuation or tension is driven to a corresponding height, until emancipation results and the chemical union, together with the accompanying condensation of the new atomic group, takes place *instantaneously*.

That perceptive actions of feeling come into play in all chemical and physical processes is therefore undeniable; but it must likewise be seen that in such a momentary traversing of the scale of feeling a distinct difference between the separate modes of feeling is not possible. These can attain to no marked conscious expression; the rapid succession of the degrees of the scale will yield only a vague product which excludes all individual feelings. This is seen in *all* mechanical processes or acts, for we know of no single instance where the reaction of the particles concerned would not be an instantaneous, explosion-like, momentary one. Indeed, upon this instantaneous reaction of the minutest particles from every mechanical impact depends the velocity with which light, electricity, sound and heat are transmitted.

The manifestation of a clearly and distinctly marked conscious feeling, on the other hand, demands exactly the opposite, i. e. a *constant* permanency in a definite degree of density. When, for example, the conscious product of feeling must come to expression as *red*, it is clear that the center of condensation must *continually* maintain that degree of density which corresponds to the mode of feeling, red. If this degree of density is of but momentary duration, it is self-evident that the sense-product red cannot attain to permanent consciousness. All our actual feelings, however, are characterized by such permanent and therefore sharply distinguished conditions of feeling.

When I speak, therefore, of the mechanical conditions of sense-perception, only such are to be understood as, in direct opposition to all physical or mechanical processes, maintain a *permanency* of a certain degree of density, of a certain condition of activity. Our conscious feeling does not arise by impacts of separate feelings, which are separated from one another, so to speak, by unconscious intervals of space; but it represents a *continuum*, a continuation of an unbroken *state of activity*.

The fundamental characteristic of the inorganic processes, as distinguished from the organic, consists in this, that while in the former the activity of the particles concerned is always a momentary one, in the latter this activity is a *continuous* one. In the inorganic processes the condition or state of repose, after its expiration, is again striven for and attained; in the organic processes, on the contrary, this state is never reached. I say expressly, in the organic processes this state of repose is never reached. For, if conscious feeling is dependent upon the highest degrees of negative fluctuation in a center of condensation, it is clear that in the negative fluctuation all feeling is *forced upon* it. The negative fluctuation can never be *striven for;* it must always be *impelled or forced toward.* And with it also the manifestation of feeling.

In unmistakable accordance with this we meet in the organic world, as one of its fundamental features, the desire for rest, for inactivity. Life is *forced* upon our planet. If the boundless light and heat of the sun did not uninterruptedly necessitate the high negative fluctuation, all life would immediately vanish from the face of our planet. Nay, further, the temporary absence of the sun's rays during night is sufficient to crown this striving for rest in the organic world with temporary success and banish conscious perception. Feeling, life and activity are forced upon organic matter, and it must not surprise one if, on such a fundamental basis, even with us human beings the condition which we designate as *dolce far niente* exerts such an irresistible charm. The strife for rest is a peculiar feature of the whole animal world.

AN ENGLISH MONIST.

BY XENOS CLARK.

To those who understand clearly the present intellectual drift of the world, there is something amusing in the tenacity with which religious sectarians still contest their minor battles. While the whole theological ship is in flames, and intelligent people everywhere are looking for their life-preservers, we see these contentious passengers engaged in disputes over their state-rooms. "Never mind your state-rooms," one feels like shouting in their ears; "unless something happens the whole ship will be gone presently."

One need only refer, for illustration, to the Andover controversy, in which the leading orthodox sect of the country is divided against itself on the question whether there is probation in the future life for the unenlightened heathen. Probation in the future life, indeed. Unhappy disputants, who do not see that while they fight for the branch the whole tree has disappeared! For who among men now-a-days can say that there *is* a future life?

When filled with weariness by the spectacle of such contentions as these, it is with gratitude one turns to a writer who deems it his office to put aside disputed points, and to ask whether there are not some matters on which, despite the current skepticism, all good and intelligent men can unite in belief. "The author is one of those simpletons," says Professor Seeley of Oxford, in the preface to his *Natural Religion*, "who believe that, alike in politics and religion, there are truths outside the region of party debate, and that these truths are more important than the contending parties will easily be induced to believe." And Professor Seeley goes on, in his interesting book, which is certainly of the ablest, to elucidate these "truths outside the region of party debate."

I say Professor Seeley's book is of the ablest, but the characterization is imperfect. Beyond question his *Natural Religion* is the most acute, the most novel, as it is also the most solid, the most instructive, and the most really helpful contribution that modern liberalism has made to literature. I do not think anyone who has read the work will call this over-praise. It should be added that it is also a book of special interest to readers of this journal, since in his attempt to find a "common basis of belief for all thoughtful men," Professor Seeley has adopted a form of monism which has many resemblances to that advocated by THE OPEN COURT. Some of these resemblances it is my present purpose to point out, though I cannot hope to do anything like justice to a work which is too compact with thought to permit a summary that shall be both brief and satisfactory. It must suffice, at present, simply to make a statement of Professor Seeley's main theological position, to outline his new idea of a Deity; an idea so broadly conceived that its author thinks no man, be he scientist or theologian, can refuse acknowledgment.

This Deity whom Professor Seeley thinks all men can unite in acknowledging is, to begin with, not a theological abstraction by any means. It is the Universe seen in its order and oneness, and especially in its oneness. However they differ on other points, he believes all men can join in worshiping a "unity conceived in one way or another as holding the universe together," since this unity is an obvious fact, taught by all science and observation. In truth, the most striking thing about Nature to a reflective mind, is its unity, the fact that it coheres in one vast, orderly whole. We are so used to the spectacle that we grow indifferent to it; we search afar for a god when here one stands obvious to our eyes. Now, the author of *Natural Religion* contends that this wonderful unity of Nature can take the place of God; contends even that it is a "greater Deity than the average Christian worships." And why, he says, should we not call it God, since it can take the place of God—since we can look upon it with adoration and fear, can indeed worship it? "Men slide easily from the most momentous controversies into the most contemptible logomachies. If we look at things, and not merely at words, we shall soon see that the scientific man has a theology and a God, a most impressive theology, a most awful and glorious God. I say that man believes in a God who feels himself in the presence of a Power which is not himself and is immeasurably above himself, a Power in the contemplation of which he is absorbed, in the knowledge of which he finds safety and happiness. *And such now is Nature to the scientific man.*"

We should misunderstand our author, however, if we attributed to him, on account of the above paragraph, a desire to re-establish the old theism of the churches. By what he calls God he simply means the unity of Nature. We might call it Nature, instead, he says, but since the word "Nature" does not arouse in us thoughts of worship and devotion, and since the word "God" does, the latter is preferable to a writer who is seeking to arouse religious rather than skeptical thoughts.

The wonderful unity of Nature is therefore the new deity to whom Professor Seeley would lift men's eyes in the present days of doubt. Science has come, theology has fallen before it, and the world is Godless, men have exclaimed. "Not so!" cries this new voice. "Science itself has revealed to us a Deity—yes, a grander and greater one than we have ever known before!"

The skeptical will ask what there is in this Unity of Nature that entitles it to this new role; what are its credentials; wherein is it aught save a mere phenomenon, like the rest of Nature? The unity of Nature is not a mere phenomenon, because it holds phenomena together; because without it Nature would be a drifting chaos, while with it it is an orderly and interdependent whole. With this Power that unifies phenomena, that makes the All, we are but poorly acquainted, but that does not contravene its evident existence, or make it less awe-compelling. It is a Power which men can worship, since, on the one hand, its proportions are so vast and wonderful, and, on the other, it is so intimately and beneficently interwoven with all the processes of human life. "But it is not merely because he realizes a stupendous Power that I call a scientific man a theist. A true theist should recognize his Deity as giving him the law to which his life ought to be conformed; and there is no stronger conviction in this age than the conviction of the scientific man, that all happiness depends upon the knowledge of the laws of Nature, and the careful adaptation of human life to them."

The Power that gives unity to Nature, that makes it One, can therefore be worshiped because it supplies to man the law of life. It can be worshiped also because its manifestations are infinitely interesting and beautiful. "He who studies it has continually the exquisite pleasure of discerning, or half discerning, and divining laws; regularities glimmer through an appearance of con-

fusion; the mind is haunted with the sense of a vast unity not yet discoverable or nameable." And finally, the unity of Nature is to be worshiped because we have a personal relation to it, because our own lives, our own minds, belong to and come from this mysterious Power, and are a part of it.

It will thus be seen that *Natural Religion* would not have us worship Nature simply as Nature in the poetical sense. Not because of the flooding sunshine, the strong mountains, the calm stars, does science call us to the worship of its new Deity. But because sunshine and mountains and stars, and all the wonderful things that are, do not live apart, but are bound together in a yet more wonderful *Whole*. They are the separate words, the Whole is the complete and pregnant sentence. We have not read the sentence yet, but who has not felt that its meaning may be something vast and deep, beyond all our ken? *(To be concluded.)*

MAKING SCARCITY.

BY WHEELBARROW.

Some time ago I made a few remarks upon that "competition" hobgoblin, which makes the hair of workingmen stand up in fright, "like quills upon the fretful porcupine." From my boyhood, it was a terror to me, but it does not scare me now. As I grew older I grew bolder, and at last I walked close up to it and examined it. I found it was a hollow pumpkin, with eyes, nose and mouth cut in it, and stuck on a stick clothed in the drapery of a white sheet. I see that the President of the Federation of Trades Unions has exhibited this venerable old ghost to the Senate Committee on Education and Labor. Whether it scared the committee or not I cannot say. Since then I have noticed that some other gentleman has appeared before the same committee, in company with the same specter, and demanded that convict labor shall not be put in competition with the mechanic trades, but shall be exclusively devoted to the business of "working on the roads."

I have tried to analyse the principle of non-competition, as enforced by the trades unions, and so far as I have been able to resolve it into its constituent elements, its chief ingredients appear to be monopoly and selfishness, with some very foolish dread of the evils of abundance. Take this convict labor question for example. Convict labor is not opposed on any ground but that of "competition." It competes with outside labor, that is, it produces something, and this production is the injury complained of. Let us reduce the question to a concrete form. Suppose that the two thousand convicts in the penitentiaries of Illinois are all compelled to work at the shoemaking trade, and suppose that they each make a pair of shoes a day, or 62,400 pairs a year, will it be contended that the addition of this number of shoes to the common stock is an injury to the people of Illinois? There is no one who will claim that; but the President of the Federation will say: "It is an injury to the shoemakers' trade, and therefore it ought to be prevented."

Very well, then make tailors of the convicts. This plan doesn't solve the difficulty either, for the tailors won't agree to it, nor the tinkers, nor the tanners, nor the masons, nor the carpenters, nor any other trade. As the butcher, and baker, and candlestick-maker all refuse to work in competition with the convicts, and as none of these economists are daring enough to require that the convicts live in idleness, an easy solution of the problem is found by compelling them "to work upon the roads." But really this is only shifting the difficulty, and is no solution at all. At school I have solved many a hard problem in long division, which is as far as I went, by getting some other boy to do the sum for me, and the President of the Federation adopts the same plan with the convict labor difficulty. He dumps it on the "laborer" class, and says: "Here, you man with the wheelbarrow, work this hard sum." But I am not able to work it, because I find that I cannot set the convicts at any useful employment without putting them in competition with somebody. They must either live in idleness at the expense of the community, or they must earn something to pay for their board; to earn something they must produce something, and that is an addition to the aggregate wealth of the people, at which we all get a nibble at last.

If adding to the wealth of the country is an injury, then subtracting from that wealth must be a benefit, and therefore the destruction of shoes and clothes, and houses and furniture, must be a desirable thing; the Chicago fire, instead of being a great calamity, was a great blessing. This fallacy is firmly cherished by workingmen; it is the guiding principle of trades unions, and is productive of want and poverty incalculable. It was instilled into me in my very childhood, and it was late when I got rid of it. I never ate a meal, when a boy, that was not somehow or other complicated with the everlasting consideration of "work." When I got a good dinner I knew that my father was "in work;" when the meal was scanty I knew that he was "out of work." In our home all human affairs whirled round and round the image of "work" forever. A big fire devoured a street—"It will make work," I heard my father say. A ship was lost at sea laden with silk, and leather, and cloth—"It will make work," said my father. A reservoir broke jail and swept the heart of the town away—"It will make work," my mother said; and so all human calamities were softened as blessings to me; they made work, and work made wages, and wages made bread and potatoes and clothes for me. God bless the shipwreck, and the fire, and the flood; they make

> "Work, work, work, till the eyes are heavy and dim,
> And work, work, work, till the brain begins to swim."

Oh, comrade of the trowel, the needle, and the awl; oh, toiler at the anvil and the loom; oh, brother of the jackplane and the shovel; oh, chivalry of toil by land and sea, it is not work we need so much as rest. Let us make all the wealth we can, and destroy nothing; let us not be jealous of each other's talent, but teach each other everything we know. Let us make plenty in the land, and then let us try to shape our social system and the laws so that a fairer share of it will come to us after we have made it.

Last fall I picked up a newspaper and read in great black headlines this alarming news: "A Heavy Frost. It spread over various sections of the Northwest Friday night. Early planted corn escaped with little injury; the late crop practically ruined." It requires no great skill in political economy, as they call it, to understand that the blighting of the corn crop is a great calamity; it means less food the coming winter, and less food means less of clothes, and coal, and wood. And yet there are a lot of workingmen who would regard a blight of the hat crop, or the shoe crop, or the coat crop as a blessing to labor; but in truth they are all equally injurious as the blighting of the cattle and the corn. Food, and clothes, and furniture, and all necessaries of life, are so intimately related, that the blight of one is the blight of all, and it means less of each to the workingman.

It is easy to prove by the doctrines of the anti-competitionists that this disaster to the corn crop is a good thing, because it removes from the farmers living south of the frost line the competition in the corn market of the farmers living north of it. And it is also a good thing for the people who have old corn in the bins; but this is a narrow and selfish way to look at it, and if the doctrine be carried out to its logical end it elevates to the rank of a moral principle the unnatural dogma that the prosperity of one man depends upon the adversity of another. Once upon a time I had a job of "work on the roads" not far from an Indian agency. The tribe had just been paid off, and the Indians were trading at the store up at the agency where I happened to go for some tobacco. They were buying some needles, for which the trader charged them fifty cents apiece. They complained of the price, but when the trader assured them that the needle-maker was dead, and the needle-making industry thereby terminated, they appeared satisfied. This lying excuse for the high price of needles presented to me a tough problem in economic science, and I went up to the shanty to work it out.

I lighted my pipe, and tried to read the solution of the problem in the clouds of smoke. The first question to be answered was this: Suppose the needle-maker was really dead and his art lost forever, would that be a good thing? I had no trouble with this question at all. I could readily see that although it might be a good thing for the man who happened to have a large stock of needles on hand, it would be a bad thing for everybody else. The next question was not so easy. It was this: Suppose that one-half of the needle-makers in the world should die to-night, would that be a good thing in an economic point of view? It took several pipes of tobacco to answer this question, and I am not sure that I got it right even then. The answer involved so many collaterals. It was very clear that if every needle-maker was a master, and not a journeyman, those who survived, being relieved of competition to such a great extent, would make good profit out of it by raising the price of needles, but the community would still be losers. But suppose that of the survivors 95 per cent. were journeymen, and 5 per cent. masters, where would the new profits go? Labor being a marketable thing, the masters would still want to buy it at the old figures, and the jours would get but a trifling raise of wages, while the increased value of needles would nearly all go into the pockets of the masters. But even supposing that the increased profit were fairly divided between them, the community would still have to pay it, and, therefore, the sudden removal of so much competition in the trade would be an injury, and not a benefit. Applying this rule to every other trade and occupation, it appeared to me that the loss of wealth, or of wealth-producing capacity, is injurious to the community, that the workingmen cannot be benefited by such loss, and that all attempts to create a scarcity of competition by crippling talent, or forbidding the industry of anybody, can only be of local or personal benefit here and there, and the pursuit of such false systems of relief is a sad waste of the moral strength of the workingmen.

"Nature abhors a vacuum," is a maxim in physics, and in moral philosophy also. So nature tries forever to preserve an equilibrium in the moral and material universe. The very earthquakes and volcanoes are efforts in this direction, and men can no easier keep trades unbalanced than they can disturb the level of the sea. Create a vacuum in any trade and nature rushes in to fill it. If I could give paralysis to every shoveler to-night, how long should I enjoy my monopoly? In a week I should see shovelers galore. The telegraph operators made a vacuum, but only for an instant; it at once began to fill; in a month the hole was almost gone. We may think we have destroyed competition by excluding a brother craftsman here, but he or somebody else has slipped in over there, for the struggle of life goes on. We must liberate labor, and exalt it by grander schemes than these.

The source of final happiness is inherent in the heart; he is a fool who seeks it elsewhere. He is like the shepherd who searched for the sheep which was in his bosom.—*Hindu Vemana.*

IGNORAMUS AND INVENIEMUS, NOT IGNORABIMUS OR INVENIMUS.

Some time ago the world of science was startled by Du Bois-Reymond's declaration of a seven-fold *ignorabimus*. Quite in harmony with English agnosticism this prominent German scientist despaired of ever attaining to a satisfactory solution of the most important problems in science and philosophy. He found much opposition, and many of his colleagues opposed him with a triumphant *invenimus*. We stated our view on the subject in the editorial of No. 23, "The Unknowable," in which we declared that the agnostic Unknowable is a chimera; the very essence and nature of natural phenomena is knowability. There is no mystery in nature of which we can proclaim an ignorabimus. Those questions, however, as to the ultimate cause of existence at large, which from their very nature admit of no answer—the transcendent or metaphysical problems as they are often called—are not justifiable. Such a thing as an ultimate cause, or a first cause, is a self-contradiction; an ultimate cause is an absurdity and exists as little as fabulous griffins and sphinxes. A sphinx will always be an enigmatic creature as long as we believe in its existence and try to realize how it can possibly live, and breathe, and have its being. The result of profound study and thought on the life of a sphinx will always be a modest and humble ignorabimus. But the sphinxes of science, the unexplainable mysteries of nature, are creatures of our own imagination. We can dispense with ultimate causes as well as with unknowabilities altogether. If we fully understand what causality means, the mystery which shrouds nature is dispelled. We shall see that nature's work is open and clear, not hidden and secret; it is knowable and not inscrutable.

As to the existence of reality, or the existence of the world at large, we accept it as a fact. A fact must be verified by statement. To prove a fact, means to verify it by witnesses. Existence at large, or the existence of the world, viz.: the truth that there is something at all cannot be explained by comprehension as phenomena are explained, it cannot logically be deduced by syllogisms or mathematical demonstrations. We must accept it like other facts on the evidence of witnesses. The chief witness in this case are we ourselves. By our very existence we bear testimony to the truth of the existence of reality, and this is the truth which is at the bottom of Descartes' dictum, *cogito, ergo sum.*

In thus taking the side of those who, encouraged by the success of science in so many fields of inquiry, rejoice in their invenimus (i. e. we have found a solution), we freely acknowledge also our ignoramus on many, and, indeed, on most important subjects. But observe, while the desperate ignorabimus (the we-shall-never-know) is an insurmountable obstacle to the progress of science, the modest ignoramus (the we-do-not-yet-know) is an inexhaustible source to furnish new food for thought and investigation. The ignorabimus stands in contradiction to the invenimus; but the *ignoramus* very well agrees with an aspiring and hopeful *inveniemus*, i. e. we *shall* find the solution of the problem, for the problem in itself is not insolvable.

We cannot find fault with the proud *heureka* of a Pythagoras. The invenimus of scientists can only become dangerous to science if it is the satisfied expression of a narrow-minded, self-contentedness. There are many problems, which, when once settled, are settled forever. But even they will only be a basis for further inquiry, as human cognizance can never embrace the rich and great totality of all possible knowledge in all its particulars.

In true science the ignoramus and the inveniemus will always go together. The range of nature is so wide and the scope of science is so large, that with each problem solved we can be sure that new problems will arise; but none of them will be insolvable, and each *ignoramus* naturally carries with it its *inveniemus*. P. C.

THE BIRTH OF SATAN.

BY WM. SCHUYLER.

The first time man did conscious wrong,
He recognized mysterious powers;
That, like a tempest fierce and strong,
Blighted and killed life's fairest flowers.

Then, wondering what the cause might be,
He never thought himself to blame—
Supposed it was an enemy—
And so the birth of Satan came.

And even now, with broadened mind,
Man will not bear the blame of evil;
But seeks some alien cause to find,
While he himself remains—the Devil.

CORRESPONDENCE.

To the Editor of THE OPEN COURT:

I was very much interested and edified by the discussion in the last number of THE OPEN COURT on the subject of conciliating or reconciling *Religion* with *Science*. The subject is an important one, and suggests to my mind many reflections.

In my opinion the position taken by your critic was very well answered by the editor. As I view the subject, a *true science* and a *true religion* need no conciliation. Like all great truths they are always, and necessarily, in harmony. The fact is, a true religion is a department of science, and is capable of a scientific explanation.

The conflict is only between science and a false or supernatural religion. The issue to-day is mainly between the advocates of a rational and natural, and, therefore, a scientific religion, and the devotees of an irrational and anti-natural religion.

If THE OPEN COURT proposes to conciliate science, properly so called, with a supernatural religion, it is undertaking to accomplish an impossibility. On the other hand, if it proposes to conciliate that which needs no reconciliation, namely, a true science and a natural religion, it is doing a work of supererogation.

However, I think your position has been made sufficiently clear, viz.: that when properly understood, there will be seen to exist no conflict, no antagonism between *religion* and *science*.

The question is, has the *concept*, *idea* or *emotion*, for which the abstract term *religion* stands as a symbol, a true and valid basis in the human mind, and if so, what is the cause of it? We answer, it has, just as much so as have the *concepts* of truth, goodness, justice, beauty, love and order, which are symbolized by the terms science, art, law, family and civil government.

The reason and cause of all these are to be sought for and found in the *relations subsisting* between *man* and his *environments*. The principle of *natural selection* operating by *conservative inheritance* on the one hand, and by *progressive adaptation* on the other will explain them all.

Now, in considering the question of religion or any other real phenomenon of human nature, we must not lose sight of the scientific fact that man is a *part* and a *product* of *nature*.

That he has been built up in nature, body and mind, and constantly subjected to its powerful influences. Emerging from an ape-like ancestry of arboreal habits into the savage man of the stone age, and born into a world of elemental strife, with no instruments of use or defense, save his own ingeniously constructed hands and feet, (so constructed by "natural selection,") he contended as best he could against the elements and the animals for the preservation of his life and the care of his offspring.

As necessity required, he invented implements of industry and warfare. The hand and the tongue kept pace with each other. As his reason developed, his occupations and implements increased, and his language became enriched.

From this lowly condition, in which all his energies were taxed in the struggle for existence, he has progressed by slow and tedious steps through long periods of time up to his present magnificent attainments. In the course of this development the sentiment we call religion was evolved in man.

Two dominant forces, namely, *nature* and *society*, constantly operating on his mental organism, produced in him mental and moral traits, such as memory, consciousness, conscience, sympathy, love, fear, hope, courage, wonder, and a feeling of dependence.

The genesis of his religions must, therefore, be traced to these two sources, the *influence* of *mankind* over *man*, and the influence of *nature* over *man*. The first produced in him *love* of *offspring*, *fear* of the *strong*, *fear* of *death*, and belief in *ghosts*, which was the foundation of *ancestral worship*.

Ancestral worship was the great fountain-head of allt he polytheisms, monotheisms and anthropomorphic religions.

Ancestral worship, fear of the dead, and belief in ghosts among our remote ancestors, were the prolific sources of the doctrine of metempsychosis, idol worship, strange customs of burying the dead, descriptions of the condition of souls in the spirit land, holy books, holy times and places, miracles, prophecies, oracles, witchcraft, trial by ordeal, saints, holy ghosts, gods, devils, angels, and indeed all the doctrines and dramatis personæ of the *theological stage*. Of course, as man improved his condition and became enlightened, these religions were refined and elevated from a crude fetishism to the worship of a Supreme Spiritual Being, but of course with many imperfections and anthropomorphic notions still clinging to their conceptions of Him. We have briefly alluded to the great stream of religion which took its rise in *man's influence* over *man*, and which has flowed down through human history, blessing and cursing mankind. Refining as man refined, and reverting to the *ancestral* type whenever and in the degree that man degenerated.

Let us now turn and glance at that other *original source* and fountain-head of religion, namely, the *influence* of *nature* over *man*. These religions are properly called *natural religions*, while those of the *ghostly order* are denominated *anti-natural* or *supernatural religions*. The leading religions of this order may be classed by their generic names as follows, viz.: Fetishism, Zootheism, Polytheism, Monotheism, Theism. Of course, Judaism, Christianity and Mahometanism belong to this great order. The religions, or as some prefer to call them the philosophies, derived from *nature worship*, are usually denominated Atheism, Pantheism, Paganism, Deism, Agnosticism, Monism. This is by no means intended to be a complete list of the great religions, but only a few of the important ones. The great and venerable *supernatural* religions, with their immemorial memories, their traditional worship of a *man-like deity*, their dogmas of a *fallen world*, of a *place* of *salvation*, of a *personal devil*, of a hell of burning brimstone, and a ten by twelve heaven, are destined to lose their hold over the human mind. They certainly can claim the *past*, but the *future* is less secure.

Scientific pantheism, with the accent on the *second syllable*, is coming forward with its claims of a *natural religion*, based on *scientific* principles, to contest the *future* with its great and ancient antagonist. It already has a great following of devoted worshipers outside, and many inside of churches. It holds that all men are more or less religious by virtue of their organizations, and that all are immortal and may be happy if they will obey the conditions of their being and the *laws* of *nature*.

Some think religion is only an emotion of fear and ignorance, and one of the incidents in man's evolution, and will some time be outgrown and eliminated. I think otherwise. Man inherits a sentiment of religion, which may be cultivated and improved by proper surroundings, the same as any other emotion. Science or knowledge of the universe will never destroy or eradicate man's admiration of the works of nature. Indeed, I should rather suppose that a scientific knowledge of the universe would enhance man's feelings of the true, the good, the beautiful, the sublime, the sentiments of love of God and love of man—in fine, his *religious emotions*. The child, the Indian, has these emotions to some degree; the man of thought, of culture and great attainments, to a much greater degree. Man, always environed by the same universe, I cannot see how he will outgrow the religious sentiments and emotions which it inspires; his notions of religion will refine as he refines, but the intellect or the reason will never *annihilate* the *emotions*.

Crude notions of religion have indeed been entertained by great men from the time of *Menu* and *Moses*, down through the ages to the present time; but modern science, the hand-maid of *Monistic philosophy* and *Pantheistic* religion, is leading men to clearer and sublimer visions of the universe, and consequently to purer emotions, a grander conception of God, and a more enlightened worship.

Whoever will take the pains to investigate the religious history of the world, will find, I think, after sifting and analysing a good deal of the rubbish of history, *two great conceptions* of *religion*, which are often found united. But however commingled they may be, in this or that form of literature or worship, they will on a final analysis be found to have distinctive characteristics.

One inculcates an anti-natural religion, a dualistic philosophy, and the worship of a *supernatural God outside* of *nature*, by and through some *god-man* or *holy book*, all for the avowed purpose of escaping from a present fallen condition and a future *inferno*, an evil doom of unimaginable horrors.

The other system inculcates a *natural religion*, a *monistic philosophy*, the purest humanities without intolerance or superstition, and the adoration of an infinite Divine Intelligence; through *nature* pure and simple, because it is a joy and a beatitude to thus commune with the source of All Being. With such a religion as this, which has not to be *authenticated* by prophecies and miracles, science is in accord and needs no reconciliation.

Pantheism has come down to us mainly through *Aryan*

sources. From Indian or Hindoo Brahminism, through the *Magi* of Persia, through the Greek and Roman mythologies and philosophies and through Arabian and European literature and science of the Middle Ages to its *present form*. *Anthropotheism* has come to us chiefly through the *Semitic races* and languages.

From Assyrian idolatry through Judaism, Mahometanism and Trinitarian Christianity. These great religions have built temples and tombs, mosques and monasteries, castles and cathedrals, and dedicated them to the worship of their several deities. They have maintained wars at the command of their gods—conducted pilgrimages and crusades, overrun and conquered countries, and established powerful governments and systems of worship.

They have encouraged superstition, persecuted heresy, opposed progress, science and philosophy. Maintained a priesthood that inculcated dogmas, miracles and oracles, and taught the people to abjure the joys and pleasures of life; to hate the face of nature, to mourn and weep; to look away from the earth and toward the skies for comfort and consolation.

Let us now turn from the past and view the present and the prospect. *Scientific Theism* or *Modern Pantheism* with its doctrine of an organic and dynamic cosmos permeated with *divine life, love, and intelligence* is coming forward, backed by the best minds of the age and claiming our attention and our devotion.

In philosophy it is monistic, optimistic, scientific, and in accord with the great theory of Evolution and Modern Art, learning and civilization.

In *religion* it is *eclectic* and cosmopolitan—it gathers and gleans the good and true from every system. It inculcates all the sweet humanities, all the virtues and moralities, and worships a divinity of infinite and ineffable glory, who floods the soul of every man with his love and presence as the light and heat of the morning sun fills all our dwellings with its effulgent rays.

Liberal Unitarian Christianity is the best organized exponent of these views in this country. But there is as yet no adequately organized expression of this *rising religion*. It exists in the expressed and unexpressed thoughts and feelings of our greatest and best men and women *inside* and *outside* of the Christian churches; in literature, in science, art, philosophy, and in common every-day life.

The *church* of the *future* is being *evolved* from elements inside and outside the great Christian church of the *present*, and when it comes, as come it will, it will be broad enough and grand enough to recognize and receive the true, and the good, and the beautiful wherever found. It will be a religion that will welcome and receive the sanction and support of the Humboldts, the Huxleys, and the Darwins of science; the Spinozas and Spencers of philosophy; the Goethes and Shakespeares of poetry; the Carlyles, the Victor Hugos and Emersons of literature; and the Beechers and Ingersolls of oratory. Such a religion will of necessity be founded on a *universal science* and art, a *universal human brotherhood*, and one universal divinity. W. W. Richmond.

OBEDIENCE OR JUDGMENT.

Sir—In looking over The Open Court I have only just now noticed on page 719, the remarks on probation. Gail Hamilton seems to strike right and left and all around. Yet she does not touch the question, only *her idea* of probation. Suppose we substitute the word *obedience* for probation, and consider that the power which has given laws to the universe requires obedience in all things and all creatures; obedience in the storm-cloud and in the sunshine; in the forming of a snowflake and of a dewdrop; in the running brook and in Niagara; obedience in all growth and all activity; in health and in disease; obedience to the laws which govern men in their physical, intellectual, and ethical relations;—would such a change of word be a repudiation of the grand truth latent in probation and patent in obedience? Now, in fact, myriads who are loyal to law understand just this by the use of that word. And that if creatures, having self-volition, persist in disobeying the laws of their being, not even "the All" of nature can save them from its consequences. The Christian religion offers a Redeemer who has ransomed the erring, but neither Christianity nor naturalism can ransom that or those who persist in disobedience to the laws which govern them.

Another of your contributors prefers to use "the All" for God. Well, let him for our purpose. Let him Anglicise the Greek τὸ πᾶν; let him become a Brahmin or a Buddhist. This cannot change the fact of the existence and supremacy of Deity, of something or some One in the government of our world, that makes for righteousness. For use what words we may, there is some power in nature which makes for righteousness. Ethics are but the eternal laws which He has established. Wherefore, if righteousness, right living, right thinking, right aspiration, be the law of our being, that power cannot approve, nor be blended with wrong aspirations, thinking and living in any one. Hence men exclude themselves from Him, exile themselves from Him, and withdraw in their own seclusion of oppugnancy and rebellion. Harmony is the nice adjustment of parts to a whole, whatever that whole may be. You cannot harmonize right and wrong, virtue and vice, loyalty and rebellion. So in nature, so in life, so in eternity, which is the continuance of present life, there must be harmony; harmony among the celestials in the divine presence;—as for creators of discord, they are consigned to the abode of the devil and his angels. E. Cowley.

[Rev. E. Cowley is right in saying that "neither Christianity nor naturalism can ransom those who persist in disobedience to the laws that govern them." As to the idea of evil and the evil one we refer to Mr. William Schuyler's poem on page 903 of The Open Court. Rev. Cowley's view concerning the fate of "the creators of discord" is anthropomorphic, and almost as picturesque as Breughel's famous paintings.—Editor.]

Liverpool, March 25, 1888.

To Edward C. Hegeler, Esq., Chicago:

My Dear Sir— * * * In The Open Court of March 1, p. 786, middle of first column, occurs a distinction which I much admire, and which is emphasized by the use of *italics*.*

Such *is* the *object* of mechanics. But suppose certain phenomena exhibited residuary motions, not only not accounted for by our present treatises on statics and dynamics, but plainly in excess or deficiency of results such as might be anticipated, all possible corrections having been applied. What then? Are the refractory phenomena to be put out of sight as dangerous to the credit of science? Such discrepancies *there are* in almost or quite all natural laws. But what of that? Be silent about them, for they are odious to men of science, who see in them loop-holes for the introduction of the supernatural! O, most unworthy timidity! These discrepancies are only links which join our true, but lower laws, with less known laws of higher systems, yet not supernatural, but rising tier above tier in unity and harmony, the very highest being as thoroughly in unity with nature as the lowest. It is heart-breaking to hear the positivist's loud worship, not of the united κόσμος, but of his own text-book on science for 1888.

Are *we* in no danger of ascribing to the monism of the day, beautiful though it be, a perfection to which it never can attain whilst its foremost followers assume, even as Haeckel, the attitude of *invenimus?* It is a childish dread that to step off the platform of the monism of the day is to plunge into supernaturalism. He is no learner from nature who sees no mystery in her; nay, who

*The passage mentioned reads as follows: Kirchhoff says: "Mechanics is the science of motion. Its object we define to be this: To *describe* with *exhaustive thoroughness* and the greatest attainable *simplicity* the motions that are taking place in nature."

does not rejoice in its abundance. It is cruel to add another panacea! Monism should do better than join the category of infallible salvations. It is hard to get a hearing for reverent *free* thought; it seems to offend everybody all round, yet I trust *you* will not be offended. Believe me your much indebted and grateful correspondent, HENRY H. HIGGINS.

[We do not object to the word "mystery," as Rev. H. H. Higgins uses it. The world is full of problems, and we rejoice in their abundance. We object to the word mystery in its usual sense of an inscrutable and incomprehensible secret, which by its very nature cannot be known and lies beyond the ken, not only of ourselves, but of all possible comprehension. We refer our readers to the editorial "Ignoramus *and* Inveniemus," on page 903 of this number.—EDITOR.]

NOTES.

Mr. William M. Salter will make lecture engagements for the month of June. Address 516 North Avenue, Chicago.

Professor L. Büchner, whose name is well known among the free thinkers of all countries, informs us in a private letter that since his adult children have left their home, he would be willing to receive guests in his house as permanent boarders. His offer is an excellent occasion, not only for visitors of Germany who would enjoy the company of a profound scholar and a prominent scientist in his leisure hours, but also for parents who wish to send their children abroad. We must add that the city in which Professor Büchner lives has excellent schools. His address is Darmstadt, Germany, 14 Hölges street.

BOOK REVIEWS.

LOOKING BACKWARD—2000-1887. *Edward Bellamy.* Boston: Ticknor & Co.

As the author of "Miss Ludington's Sister" and "A Nantucket Idyl," Mr. Bellamy has won a high rank among modern story-writers. In his last work his imagination undertakes the enticing but difficult task of describing a possible social state to exist at the end and during the progress of a thousand years. It is well written and ingenious, besides holding the reader's interest by the skill and power of the general plot. The object of the book, the author explains with a touch of quiet humor, "is to assist persons who, while desiring to gain a more definite idea of the social contrasts between the nineteenth and twentieth centuries, are daunted by the formal aspect of the histories which treat of the subject." C. P. W.

The *Popular Science Monthly* for April contains an interesting essay by Prof. T. H. Huxley, "The Struggle for Existence: a Programme," in which the famous scientist, in discussing the question of industrial education, expresses his views upon pre-historic man as follows:

"In the cycle of phenomena presented by the life of man, the animal, no more moral end is discernible than in that presented by the lives of the wolf and of the deer. However imperfect the relics of prehistoric men may be, the evidence which they afford clearly tends to the conclusion that, for thousands and thousands of years, before the origin of the oldest known civilizations, men were savages of a very low type. They strove with their enemies and their competitors; they preyed upon things weaker or less cunning than themselves; they were born, multiplied without stint, and died, for thousands of generations, alongside the mammoth, the urus, the lion, and the hyena, whose lives were spent in the same way; and they were no more to be praised or blamed, on moral grounds, than their less erect and more hairy compatriots.

"As among these, so among primitive men, the weakest and stupidest went to the wall, while the toughest and shrewdest, those who were best fitted to cope with their circumstances, but not the best in any other sense, survived. Life was a continual free fight, and beyond the limited and temporary relations of the family, the Hobbesian war of each against all was the normal state of existence. The human species, like others, plashed and floundered amid the general stream of evolution, keeping its head above water as it best might, and thinking neither of whence nor whither."

We must add that according to our view Professor Huxley undervalues the import of morality in the struggle for existence. Man survived not because of his toughness, or his shrewdness, but because of his moral qualities. The antediluvial fox was perhaps shrewder, and the lion or bear tougher, than the prehistoric savage or man-ape; but they were lacking in the moral faculties which bind single individuals together with the ties of love, of family and of friendship. Moral feelings, or rather the capacity and conditions of the growth of moral feelings, the tendency to reveal moral qualities, made the primitive man sociable. A social animal develops more morality than solitary beings, and the shrewdness of a social being becomes intelligence. Intelligence is more powerful as a weapon in the struggle for existence than shrewdness, because it does not lack in morality. Human speech is the product of intelligence and not of shrewdness. Man was able to develop speech only because he was moral enough to be social, and this morality elevated man above the rest of the animal world. Among savage tribes the most intelligent and *not* the shrewdest survived. It is an undeniable fact that in any given district the tribes who were lacking in morality, even when the very shrewdest and toughest, had to go to the wall, while in the end the most moral remained victorious. It is a wrong historical view to imagine that the Romans conquered the world because they were shrewder, stronger and more ferocious than their neighbors. They conquered the world because they possessed in addition to strength a rare moral quality—the quality of justice. And even their strength was not the physical force of a ferocious bull, but the moral strength of courage.

It will thus be seen that morality affords the power to survive, and if the primitive savage was not moral in the present acceptation of the word, he was in his time relatively the most moral being on earth, and this gave him more strength than toughness or shrewdness could ever afford.

THE LOST MANUSCRIPT.*

BY GUSTAV FREYTAG.

CHAPTER XIII.—Continued.

"There is one class of people of whom I am much afraid," said Ilse to her husband; "and that is the students. When I was scarcely grown up and on a visit to an aunt, I saw a whole company of them march through the gates with their large swords, hats with plumes, and velvet coats. They were so wild that I did not venture into the streets all that day. If now, as your wife, I must have intercourse with these rough men, I shall not exactly be afraid of them, but they will make me uneasy."

"They are not all so bad," said the Professor, consolingly; "you will soon get accustomed to them."

Notwithstanding this, Ilse awaited the first visit of the students with much anxiety.

It happened that one morning the bell rang just when the Professor was detained at the University

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library, and Gabriel and the maid had been sent out. Ilse opened the door herself. A young man whose colored cap and black map under his arm proclaimed him a student, started back in surprise. He looked quite different from what she expected, being without ostrich feather or sword, and his face was pale and thin; yet Ilse felt respect for the learned young man, at the same time dreading that the rude nature of his class might suddenly break out. She was, however, a brave woman and took a practical view of the visit. As long as the misfortune has come I must be courteous. "You wish to speak to my husband; he is not at home at present. Will you have the kindness to walk in?"

The student, a poor philologist who was a candidate for a scholarship, was thrown into great alarm at the majestic being who stood before him. He made many bows and did not venture to refuse. Ilse took him into the parlor, motioned him to an arm-chair and asked whether she could be of any service to him. The poor wretch became still more embarrassed and Ilse was also infected by his discomfiture. She made an effort, however, to begin a conversation, and inquired whether he belonged to the city. This was not the case. From what country did he come? she also was a stranger. He proved to be from her own province—not indeed close to her home, but within ten miles from it; he had, therefore, from his earliest youth looked on the same mountains and knew the dialect of her country and the voices of the birds. Now she moved nearer to him and made him converse, till at last they chatted together like old friends. At length Ilse said: "My husband will perhaps not return very soon; I should not like to deprive him of the pleasure of seeing you. How would it be, my countryman, if you would give us the pleasure of being our guest to dinner next Sunday?"

Surprised and with expressions of thanks the student arose to take leave and was accompanied to the door by Ilse. But he had been so confused by the adventure that he had forgotten his portfolio. Again he rang the bell diffidently; again he stood embarrassed at the door and with many excuses asked for his portfolio.

Ilse was pleased with this meeting and with having so well overcome her first difficulty. She called out joyfully to her husband when he came to the door, "Felix, the first student has been here."

"Indeed," answered the husband, in no wise disturbed by the announcement; "what is his name?"

"I do not know his name, but he wore a red cap and said he was not a freshman. I was not at all afraid and I asked him to dinner for Sunday."

"Well," replied the Professor, "if you do that to everyone our house will soon be full."

"Was it not right?" asked Ilse, troubled. "I saw that he was not one of the principal ones, but I wished, on your account, to do too much rather than too little."

"Never mind," said the Professor; "we will not forget that he was the first one to look into your dear face."

Sunday came, and with it, at the hour of noon, the student, who had on this occasion paid exceptional attention to his toilet But Ilse, observing the demeanor of her husband toward the student, maintained a quiet, motherly dignity. In accordance with this she gave him a second helping of the roast and provided him with quantities of vegetables. This kindly treatment and several glasses of wine, the last of which was poured out by Ilse, strengthened the heart of the student and raised him above the petty things of earthly life. After dinner the Professor conversed with the Doctor on some learned subjects. But Ilse kindly kept up a conversation with the young gentleman and put him so much at his ease that he began to speak of his family affairs. Then the student became confiding and pathetic and began some very sorrowful disclosures. In the first place, naturally, that he had no money; then he ventured to add the painful confession of a tender attachment for the daughter of a lawyer who lived in the same house with him, and whom he had secretly worshiped for a whole year and expressed it in poetry. But at last the father interposed; he, with a tyranny peculiar to magistrates, forbade the acceptance of the poems by his daughter and contrived to remove the student from the house. Since that time the heart of the student had been an abyss of despair; no longer did any poem—they were sonnets—penetrate to the secluded beloved one. Nay, he even had grounds to believe that she too despised him; for she attended balls, and only the previous evening he had seen her with flowers in her hair alighting from her father's carriage at a brilliantly lighted house. Sorrowfully he had stood at the door of the house among the spectators; but she had glided past him smiling and beaming. Now he wandered about in despair and alone, weary of his life and full of dismal thoughts, concerning which he gave gloomy intimations. Finally, he asked Ilse's permission to send her these poems which expressed the condition of his heart. Ilse, of course, consented, with expressions of sincere compassion.

The student took his leave and the next morning Ilse received a package with a very respectful letter, by post, in which he excused himself for not sending her all the poetical pieces which would place his misfortune in the right light, as he had not copies of them ready. Enclosed with them was a sonnet to Ilse herself, very tender and full of reverence, in which it was clearly the secret intention of the student to make Ilse the mistress of his dreams in the place of his unfaithful love.

Ilse, somewhat embarrassed, laid this enclosure on the writing-table of her husband.

"If I have done wrong, Felix, tell me."

The Professor laughed.

"I will send him back his poem myself; that will cool his ardor. You know now that it is dangerous to receive the confidence of a student. The poems, by the way, are poorer than need be."

"Thus I have had a lesson," said Ilse, "which I have brought upon myself; for the future I will be more cautious."

But she could not so easily banish the recollection of the student.

Every afternoon, when the weather was favorable, Ilse went at the same hour with her husband to the adjacent wood. The happy couple sought out lonely by-paths where the branches were more thickly intertwined and the green carpet beneath contrasted gaily with the yellow leaves. Then Ilse thought of the trees on her father's estate; and the conversation with her husband always reverted to her father, brothers and sisters and to the latest news she had had from home. In the meadow which extended from the last buildings of the town to the wood there stood a bench under a large bush; from there could be seen the hostile houses in the foreground and behind them the gables and towers of the city. When Ilse came upon the place the first time, she was pleased at the sight of her own windows and the surrounding gloomy towers, and it led her to think of the seat in the cave from which she had so often looked on her father's house; she sat down on the bench, drew out the letters which she had just received from her brothers and sisters, and read to her husband the simple sentences in which they reported the latest events on the estate. From that time forth this became her favorite resting-place, as she and her husband bent their steps homeward.

The day after the reception of the student's package, on arriving at the bench, she saw a small nosegay lying on it; she picked it up with curiosity; a delicately folded note of rose-colored paper was appended to it, with this inscription: "A greeting from B." After this as many stars as there were letters in the name of her father's country-place. Surprised, she handed the note to the Professor. He opened it and read these unpretentious lines:

> The little dwarf in his stone-built bower,
> Has written the ryhme on this card.
> He sends from your father's home a flower,
> With his heart-felt, most cordial regard.

"That is meant for you," he said, in astonishment.

"How delightful!" exclaimed Ilse.

"The '*dwarf*' must certainly be a joke of the Doctor," decided the Professor; "truly, he has well disguised his handwriting."

Ilse, delighted, pinned on the nosegay.

"When the Doctor comes this evening he shall not find out that we have discovered him."

The Professor dilated upon the droll idea of his friend and Ilse, who before had looked upon the Doctor with secret distrust, heartily agreed.

But when, in the evening, the Doctor feigned the greatest nonchalance, he was jestingly scolded for his art of dissimulation and loaded with thanks. When, however, he firmly declared that the nosegay and verse did not come from him, fruitless discussion arose as to the author, and the Professor began to look very serious.

A few days later the offering in the wood was repeated; another nosegay lay on the bench with the same address and a verse. Again did Ilse endeavor gently to maintain that there had been collusion on the part of the Doctor, but the Professor rejected that and put the rose-colored note in his pocket. Ilse took the nosegay with her, but this time did not place it in her girdle. When the Doctor came the adventure was again discussed.

"It can be no one but the little student," said Ilse, much distressed.

"That I fear, also," said the Professor, and related to the Doctor Ilse's annoyance at the confidential package from the son of the muses. "Harmless as the thing appears in itself, it still has a serious aspect. These addresses imply close watching, which is anything but agreeable, and such activity and assiduity may lead the adorer to still greater daring. He must be checked. I will endeavor to-morrow to convince him of his error."

"And if he should deny the act," interposed the Doctor. "You should at least make this impossible. As the nosegay has escaped the observation of others passing by, it has probably been laid there the last moment before your appearance, which would not be difficult to do, as you always pass at the same hour. We must endeavor to surprise the daring man."

"I will go alone to-morrow," said the Professor.

"You ought not to watch a student in the wood," said the Doctor, decidedly. "Besides, if your wife remains at home the nosegay will probably not lie on the bench. Leave the affair to me. Go out as usual to-morrow and the following days and I shall watch the place from some other point."

This being settled, the Professor took both the small nosegays from the glass and threw them out of the window.

On the following day, a quarter of an hour before his friends started, the Doctor went to the wood, disguised in a grey coat and dark hat, in order to fall upon the presumptuous versifier from his hiding-place; he undertook to chastise the offender so that the Professor would be spared any personal interference. He found a good place just opposite the bench, where the dense beech foliage would conceal the hunter from his game. There he placed himself in a good position, drew a large opera-glass from his pocket and fixed his eyes incessantly on the bench in question. The bench was still empty;

the few pedestrians passed it by with indifference; the time seemed long; the Doctor looked for half an hour through the glasses, so that his eyes began to ache, but he persevered. His place was well chosen; the offender could not escape. Suddenly, just as his eyes accidentally glanced toward Herr Hummel's house, he saw the garden gate open; something dark passed out between the trees and came toward the bench out of the thicket, looked cautiously round, passed by the bench and disappeared again among the trees and through the hostile garden gate. An expression of infinite astonishment was depicted on the countenance of the Doctor; he closed his opera-glass and laughed quietly to himself; then directed the glasses again, peering after the vanished figure; shook his head and fell into deep thought. He listened and heard the quiet steps of two promenaders. The Professor and Ilse came out of the wood; they stopped a few steps from the bench and looked at the fatal nosegay which lay there so innocently. The Doctor burst out from the copse, laughing, took up the nosegay, and, offering it to Ilse, said:

"It is not the student."

"Who then?" asked the Professor, uneasily.

"That I cannot tell," replied the Doctor; "but the affair is harmless—the nosegay is from a lady."

"Seriously?" asked the Professor.

"You may depend upon it," replied Fritz, convincingly. "It is from some one whom we both know and your wife need not hesitate to accept the greetings. It is given with the best intentions."

"Have the townspeople so many verses and secrets?" asked Ilse, curiously, taking the flowers with a light heart.

Again there was guessing: they could not find any one on whom they could fix it.

"I am glad that the mystery is thus solved," said the Professor; "but tell your poetess that such missives might easily fall into bad hands."

"I have no influence over her," replied the Doctor; "but whatever may have put it into her head to do this, it will not always remain a secret."

At last came the long-wished-for hour in which Laura was to have a private meeting with the distinguished stranger, as Ilse up to this day was designated in the private memoirs. Her mother had gone out when Ilse entered the sitting-room to ask a household question. Laura gave the information, gained courage and at last ventured to request that Ilse would go with her into the garden. There they sat together under the last rays of an October sun and interchanged opinions concerning the boat, the Chinese temple and the passers-by. Finally, Laura respectfully took Ilse's hand and drew her into a corner of the garden in order to show her a great rarity—the abandoned nest of a hedge-sparrow. The birds had long flown away and the remains of the nest still hung on the half-bare branches.

"Here they were," cried Laura, impressively; "charming little creatures; there were five speckled eggs there and they reared their little ones successfully. I was in mortal terror all this time on account of the cats that prowl about here."

"You have never lived in the country," said Ilse. People here in the city are delighted if they can only keep one poor little sparrow in their garden. At home they chirruped, sang and flew about in all the trees; and unless there was something unusual about one of them, one took no particular notice of them. Here each little creature is valued and cared for, even the sparrows. The first morning I was here I was shocked at the sight of these poor creatures; they are not to be compared to their brothers in the country, their feathers are so bristly and uneven, and their whole bodies are black and sooty, like charcoal-burners. I would gladly have taken a sponge to wash the whole lot."

"It would be of no use; they would become black again," said Laura, despondingly. "It is caused by the soot in the gutters."

"Does one become so dusty and is one so roughly handled in the city? That is sad. It is certainly much more beautiful in the country." As Ilse softly acknowledged this, her eyes moistened involuntarily with the thought of the distant woody hills. "I am only a stranger here," she added, more cheerfully. "The city would be very pleasant if there were not so many people; they annoy me with their staring, whenever I go out alone."

"I will accompany you if you like," said Laura, delighted; "I shall always be ready."

This was a kind offer and was thankfully accepted. Laura, in her great joy, ventured to ask Ilse to go with her into her private room. They ascended to the upper story. There the little sofa, the ivy screen, the shepherd and shepherdess, were duly admired, and finally the new piano.

"Will you play something for me?" asked Ilse. "I cannot play at all. We had an old piano but I learnt only a few tunes from my dear mother for the children to dance to."

Laura took a piece of music, the first leaf of which was beautifully ornamented with gilded elves and lilies, and played the "Elfin Waltz," secretly trembling, but with great execution; and she explained, laughingly, and shaking her black locks, the passages where the spirits came fluttering in and mysteriously chattered together. Ilse was highly delighted.

"How quickly your little fingers fly," she said, regarding Laura's delicate hand with admiration. "See how large my hand is in comparison and how hard the skin—that comes from doing housework."

Laura looked entreatingly at her. "If I might only hear you sing."